

DEGESCH America, Inc. Newsletter

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Issue XXII

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After the Fumigation: Clean-up & Disposal

The responsibilities associated with fumigation of commodities does not end once the product has been declared “Gas Free”. The good fumigator wants to leave the facility in a cleaner condition when he leaves than it was when he arrived. This final clean-up is what separates a truly good fumigation from a fumigant application. How well the sealing materials, warning placards, fumigant packaging and other materials brought on-site by the fumigation company are removed is one of the lasting images left to the customer.



There is quite a bit of misinformation being bandied about regarding the residual dust and fumigant packages that remain after a fumigation. The EPA approved Applicator’s Manual states that “if properly exposed, the residual dust remaining after fumigation with Phostoxin® will be a grayish-white powder”. This powder does not meet EPA’s standard for being classified as a RCRA hazardous waste. The EPA characterizes a hazardous waste based on the criteria of ignitability, corrosivity, reactivity and toxicity. The residual dust or spent fumigant packages associated with a Phostoxin® fumigation do not meet any of these criteria. In fact, the spent dust is not only considered safe for disposal in a sanitary landfill but safe enough that metal phosphide fumigants can be added directly to raw agricultural commodities. For anyone interested, Degesch can provide laboratory analysis from an environmentally accredited lab to support the fact that the spent residues do not meet any of the aforementioned criteria. The aluminum flasks and cardboard boxes that Phostoxin® is packaged in and the steel pails that the Prepac® and Prepac® Rope are packed in can be offered for recycling. This analytical data, the support of the EPA and the long history of safe use and disposal of Phostoxin® are proof positive that these residues present no known hazard when disposed of properly.

In conclusion, Phostoxin® fumigants have been registered and used safely in the U.S. for the better part of 60 years. The residual dust or spent fumigant packages are not considered to be a Hazardous Waste. Some municipalities/landfills might classify the residual products as “Special Waste” and require notification prior to disposal. Disposal of spent fumigant dust or packages is not normally a difficult task but some pre-planning may be required. Degesch America, Inc. is always willing to assist any user of our products with the proper disposal of the spent residual material that remains after a fumigation.



“Made in America”



Virginia DEQ Issues New Fumigation Requirements

New Law Affecting Qualified Fumigation Facilities

The 2011 Virginia General Assembly enacted a law (§ [10.1-1308 of the Code of Virginia](#)) to exempt “qualified fumigation facilities” from the requirement to obtain an air permit to construct and operate under [9 VAC 5 Chapter 80, Article 6](#). The law takes effect on July 1, 2011.

What is a “Qualified Fumigation Facility?”

1. Conducts commodity fumigation operations with the fumigants methyl bromide or phosphine, compounds designated as hazardous air pollutants (HAP) regulated under §112(b) of the Clean Air Act. A commodity is a tangible good or product for sale or barter.
2. Commodity fumigation operations where potential air emissions are more than the [exemption threshold levels for state toxics](#) (see below for methyl bromide and phosphine) but are less than 10 tons per year for any single HAP and are less than 25 tons per year for all HAPs combined.

Methyl Bromide: Hourly: 1.254 pounds per hour Annual: 2.755 tons per year

Phosphine: Hourly: 0.0462 pounds per hour Annual: 0.0609 tons per year

3. In order to qualify for the exemption, the fumigation facility must meet at least one of the following requirements:
 - a. Maintain a distance of at least 300 feet from either the fence line or property line if not fenced or 300 feet from an area not regularly occupied by the public. DEQ may waive this requirement on a case-by-case basis.
 - b. Employ a capture and control system for the fumigation operation.
 - c. Monitor the fence line/property line during fumigation and aeration operations using appropriate monitoring equipment and methods (i.e. NIOSH, widely accepted industry standards) so that fumigant ambient concentrations do not exceed the more stringent of either the Department of Labor and Industry exposure limits or the parts per million standards stipulated in the federally approved pesticide labeling of the fumigant in use.

Signage Requirements

Signs notifying the public of fumigation operations must be posted prior to fumigation operations. The signs must be visible and legible at the fence or property line closest to any public right-of-way. The signs must remain in place until completion of the aeration process and must conform to the format for placards mandated by the federally approved fumigant label.

Notification Requirements

“Qualified Fumigation Facilities” are responsible for completing and submitting information to the Virginia Department of Environmental Quality before and after each fumigation event. A form for the pre-fumigation notification and post-fumigation report is available on the [DEQ Virginia Small Business Assistance webpage](#). The Initial Notification portion of the form must be submitted prior to commencing the planned fumigation event. After completion of the fumigation event, the form must be resubmitted with the additional information required in the Post Fumigation section of the form within four business days.

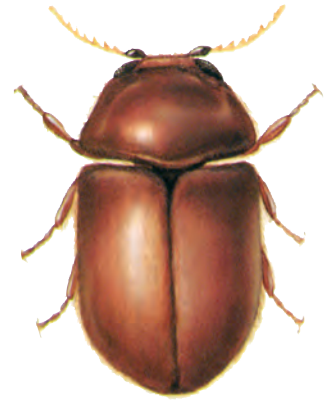
Contact Information

Patricia Buonviri, Virginia DEQ: (804) 698-4016 or Patricia.Buonviri@deq.virginia.gov

Source: Virginia Department of Environmental Quality website.

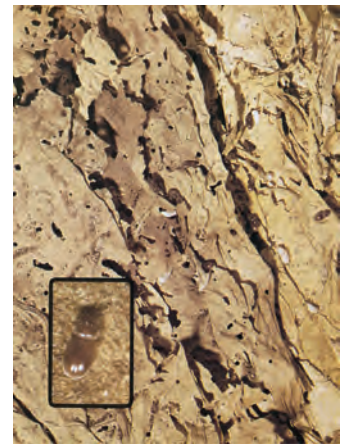
Featured Insect: Cigarette Beetle

Compared to most stored product beetles, the Cigarette Beetle is quite unique, both in appearance and in habit. Smaller in size than the flour beetles and most other stored product insects (adults are only about 1/8th inch long), the highly mobile adult is reddish-brown and has a hump-backed appearance when viewed from the side. Like an armadillo, the head is deflected under the body and not visible from above. Each female produces about 100 eggs which are laid directly on exposed food; upon hatching, larvae do not have to search for their food. The pale-yellow larvae are grub-like; but even with reduced mobility they can wiggle through an infested product as they feed. However, the larvae are virtually defenseless and never leave the protection of the food source. Fully-fed larvae glue food particles together (from an oral secretion) to form a capsule in which they pupate. Adults then chew their way out of the food-capsule/puparium (pupa case), seek mates, reproduce and start the life cycle all over again. If the puparium is adjacent to the wall of the packaging material, adults will chew through that material as well, creating the round emergence holes so typical of this insect. The entire life cycle (egg to adult) usually takes about 6-8 weeks, while adults may live another 30 days after emergence.



Cigarette Beetle - Adult

The cigarette beetle (aka tobacco beetle) gets this common name because it is the number one pest in stored tobacco production in North America. Field tobacco is never attacked by this insect which prefers to lay its eggs in the folds of the tobacco leaf while it is curing, or after it has been formed into a consumer product. The cigarette beetle will, however, attack a wide variety of milled (not whole grain!) vegetable or grain-based foods including spices, pet food, cereals, flour, and cocoa. Along with the larva of the Indian meal moth, the cigarette beetle is one of the best package penetrators: adults can easily chew their way through many forms of food packaging to infest packaged foods and tobacco.



**Cigarette Beetle
Damage to Tobacco**

Control Options

Insecticide resistance among various strains of cigarette beetle has been a topic of discussion for years; comments on that subject by this author would only fan the flames and are well beyond the scope of this newsletter. Suffice it to say that resistance management is in everyone's best interest, and with that objective in mind, permit me to make just a few general statements about cigarette beetle control.

1. Inspect incoming goods and develop a strong vendor assurance program so that you do not bring someone else's infestation into your facility!
2. Monitor for cigarette beetle activity in your facility. Cigarette beetles are attracted to insect light traps, and a very effective pheromone lure is readily available. The new pre-baited DTC Insect Monitor (described later in this article) is a very effective tool for monitoring this pest.
3. Establish population thresholds (upper control limits) that are unique to your plant, and trend activity so that corrective actions can be implemented immediately. As far as chemical treatment is concerned, fumigation is the most viable approach. Remember, larvae feed within the food mass, so fogging and residual treatments only provide temporary relief by killing small numbers of exposed adults. In fact, Vapona® or pyrethrin fogs and residual insecticides should only be used to supplement sanitation and removal of small pockets of infestation detected through monitoring.

Pheromones, a unique class of hormones, are often referred to as chemical messengers. Highly volatile compounds that are secreted in minute amounts, pheromones are carried on air currents over long distances to deliver a very specific message to a receiver such as “I’m here and I’m ready to mate”. Although many types of pheromone messengers are used throughout the insect world, those most commonly used by stored product insects fall into two categories: aggregation or sex attractants.

Aggregation Pheromones are used by stored product insects that live several months or even years as adults. Pests such as the red and confused flour beetles, as well as the merchant and saw-toothed grain beetles fall into this category. These beetles rarely if ever fly, so floor level traps must be used for aggregation pheromones. With a long life comes the need to eat; any chemical attractant that increases their chance for finding food is highly advantageous. A chemical message that says “food is here” or “here is an egg-laying site” is a big advantage for such insects.

Thus, aggregation pheromones are usually released by male beetles to attract males and females to a food source. Once the males and females have “aggregated” in a food source, mating can take place at a leisurely rate. For the synthetic aggregation pheromone used in traps to be even more effective, manufacturers often add food attractants (bait such as wheat germ oil) to aggregation pheromone traps

Sex Pheromones. As any biologist will tell you, there is no drive in the animal kingdom that is stronger than the drive to procreate! Insects are commonly separated from one another over long distances. At the same time, insects that only live for a week or two as adults, must locate mates quickly or risk failing to pass their genes on to the next generation. This is a serious survival dilemma for insects such as the Pyralid moths (Indian meal, rice, cocoa, tobacco, and warehouse moth,), as well as the cigarette beetle and the Trogoderma (warehouse) beetle group. In order to bring the sexes together over long distances in a timely manner, these insects have independently evolved hormones that are referred to as “sex attractants”. Sex pheromones are released by female insects to attract mates. These hormones are unique from species to species since it would be fruitless (literally) for a warehouse beetle female to attract a cigarette beetle or Indian meal moth males for mating! Because of these species-specific differences among the various sex pheromones, different lure dispensers can be used in a single trap to attract multiple species. The advantages of a multi-lure trap are obvious: instead of putting individual traps out in the plant or warehouse, each trap that is used can monitor several pests where sex attractants are used. The following table summarizes some of the more common features of pheromones used for stored product insects.

GENERAL FEATURES OF PHEROMONE TRAPS					
Pheromone Type	Insect Response	Behavior	Adult Feeding	Adult Longevity	Typical Insects
Sex	High	Fly	No	Short	Cigarette beetle, Indian meal moth, warehouse beetle
Aggregation	Low	Crawl	Yes	Long	Saw-toothed, red and confused flour beetle adults and larvae

DTC Solutions Insect Monitor Pheromone Trap



Over the last several years, DTC has worked to design a multi-insect pheromone trap that is effective and user friendly. With great difficulty, pest control operators have tried to accomplish this goal by attaching several different pheromone lure dispenser onto a single glue board. This process is very cumbersome:

- The technician must open and handle 3 lures for each trap used. Most facilities use 10-30 traps in their monitoring program, so that 30-90 lure dispensers that must be handled each time lures are changed out!
- With so many individual lures needed, storage and purchasing also become a problem.

- Lure placement on the glueboard has to be precise. For instance, lures placed near the edge of the glueboard are less effective since the target insect may stop at the edge of the glueboard and not be entrapped.

Handling, storing and transporting, and proper installation are just a few of the problems that are solved by a self-contained pheromone trapping system. The pre-loaded DTC Insect Monitor for stored product insects solves many of the problems of conventional pheromone traps. This trap can be used in two different set-ups:

1. A delta (tent-shaped) configuration that can be folded along perforated lines and hung up in food warehouses and other minimal dust areas of food processing plants.
2. A flat glueboard designed for placement inside a dust cover for use in mills and cereal grain plants where dusty fines would rapidly cover the glue board and affect the tactile properties of the glue.

In both trap configurations, glue and pheromones for the Indian meal moth and its relative, as well the warehouse beetle and the cigarette beetle are preloaded onto a cardboard-backed glue trap. The technician simply removes the protective paper cover and installs the combination trap in the plant. Some user-friendly features of the DTC Insect Monitor include:

- You do not have to purchase and store glue boards and individual pheromone lure dispensers.
- Handling pheromones directly is a thing of the past. This can be messy, time consuming, and you always have to worry about foreign odors (cigarette smoke, hand lotions, or other chemical residues on hands) that may interfere with the pheromone.
- Monitoring for three pests with one trap decreases the number of traps needed in the plant and reduces service time. A great labor saving device, and after all, time is money!
- Individual pheromone lure dispensers can fall from the glueboard in conventional traps. This leaves you with a non-baited (nonfunctional) trap, and a loose lure that will attract targeted insects away from your monitoring device! Loose lure dispensers in a process area also pose a foreign material contamination risk, especially when used near open product zones! These become non-issues when the pheromone is preloaded in the glue!
- The grid pattern printed on the card makes insect counting a snap!
- The orange color is proven to be more attractive to cigarette beetles.

The DTC Insect Monitor is an exciting new tool for population monitoring and early detection of cigarette beetles, Indian meal moth (and its relatives), and warehouse beetles in mills, warehouses and food processing plants.

For more information contact:

DEGESCH America, Inc. (www.degeschamerica.com)

Technical Directions, Inc. (www.foodipm.com)

Cardinal Professional Products (www.cardinalproproducts.com)

This article was written by Mike Holcomb, President - Technical Directions, Inc.



DEGESCH America, Inc. Web Store Special!!!

Free Shipping!

For a limited time, DEGESCH America, Inc. is offering free UPS Ground Service shipping on all DTC Insect Monitor Pheromone Trap orders placed through our website. This offer is valid only for orders placed via www.degeschamerica.com and is available only to addresses in the 48 continental United States. Order your DTC Insect Monitor Pheromone Traps today to take advantage of this limited time offer.

Dow AgroSciences ProFume® News

Re: Dow AgroSciences LLC's Request for an Administrative Hearing under the Federal Insecticide, Fungicide, and Rodenticide Act on its Sulfuryl Fluoride Registrations in Connection with EPA's Issuance of an Order Proposing to Grant Objections to Sulfuryl Fluoride Tolerances Established under the Federal Food, Drug, and Cosmetic Act

This letter responds to your letter dated February 18, 2011, which contained Dow AgroSciences LLC's request for an administrative hearing under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA),¹ on its sulfuryl fluoride registration.² Your letter sets forth Dow AgroSciences' position that EPA's publication of a proposed order granting objections to an EPA decision establishing sulfuryl fluoride tolerances under section 408 of the Federal Food, Drug and Cosmetic Act (FFDCA),³ is a Notice of Intent to Cancel under FIFRA. For the reasons stated below, EPA denies Dow AgroSciences' request.

EPA granted a FIFRA registration to Dow AgroSciences for various food uses of the insecticide sulfuryl fluoride in 2004. The registration was amended in 2005 to grant additional food uses. Concurrent with these actions, EPA, upon the petition of Dow AgroSciences, established tolerances for the sulfuryl fluoride residues resulting from these uses under FFDCA section 408.⁴ Tolerances were set both for sulfuryl fluoride and fluoride, a breakdown product of sulfuryl fluoride. Pursuant to the procedures in the FFDCA, various parties filed objections with EPA to those tolerances claiming that they did not meet the FFDCA's safety standard. Objections were filed by the Fluoride Action Network, Beyond Pesticides, and the Environmental Working Group (hereinafter referred to as the "Objectors"). After review of the objections and a National Academy of Sciences' report on the safety of fluoride, EPA has tentatively concluded that the Objectors are correct in their assertion that the tolerances do not meet the FFDCA section 408 safety standard, and has released a proposed order that, if finalized, would grant the objections and establish termination dates for the tolerances (hereinafter the order is referred to as the "proposed FFDCA order").⁵ EPA is presently taking comment on this proposal.

Dow AgroSciences' request for a hearing under FIFRA on its sulfuryl fluoride registration is premised on the assertion that the proposed FFDCA order is "in effect, a Notice of Intent to Cancel Dow AgroSciences' food-use registrations for [sulfuryl fluoride]."⁶ The proposed FFDCA order, Dow AgroSciences argues, is a "constructive" cancellation order because it "would require EPA to take action to cancel the underlying FIFRA registered uses ..."⁷ Dow AgroSciences asserts that a FIFRA hearing is necessary to preserve its "rights and protections ... under FIFRA."⁸ Finally, Dow AgroSciences identifies a broad array of issues that it believes need to be addressed in a FIFRA cancellation hearing.

In response to Dow AgroSciences' request, the Objectors have filed with EPA a letter arguing that the request for a FIFRA cancellation hearing should not be granted.⁹ The primary argument raised by the Objectors in opposition is that it is within EPA's discretion under the FFDCA not to initiate a FIFRA cancellation proceeding at this juncture of the FFDCA proceeding on sulfuryl fluoride. The Objectors point out that the proposed FFDCA order has been issued as part of the statutory FFDCA administrative review procedures initiated by the Objectors, not by EPA. Further, the Objectors note that the FFDCA proceeding has been focused on the narrow question of the dietary safety of sulfuryl fluoride and that the FIFRA hearing sought by Dow AgroSciences would greatly expand the issues before EPA, thus delaying resolution of the dietary safety question.

EPA is denying Dow AgroSciences' request for a FIFRA hearing on the sulfuryl fluoride registrations because EPA has neither issued a formal Notice of Intent to Cancel under FIFRA for the sulfuryl fluoride registrations nor can the proposed FFDCA order be considered a constructive Notice of Intent to Cancel.

Excepted from a May 13, 2011 letter from EPA Assistant Administrator Stephen A. Owen to DOW AgriSciences

The entire letter can be found here: <http://www.degeschamerica.com/docs/EPA-SF-Denial.pdf>

Conventions & Conferences

Degesch America, Inc. Recertification School



2012 DAI Recertification School
April 28, 2012
Stonewall Jackson Hotel
Staunton, VA

International Association of Operative Millers (IAOM)



116th Annual Conference & Expo
May 7-11, 2012
Davenport Hotel
Spokane, Washington

Grain Elevator & Processing Society (GEAPS)



Exchange 2012
March 3-6, 2012
Minneapolis Convention Center
Minneapolis, Minnesota

Milestones

Recognition

Chuck Wright has been promoted by Degesch America, Inc to the position of Secretary/Treasurer. Chuck graduated from Bridgewater College in 1978 with a BA degree in Business Administration. He began working at Degesch America, Inc. in August of 1982 and was promoted to Manager of Accounting in September 1991.

Congratulations



Raymond Branch, pictured on the left, is a 20 year employee of the Richmond Division of Degesch America, Inc. Raymond recently caught his very first large mouth bass. The bass weighed 6.8 lbs and was 22 inches long!

Emergency Contact Numbers

For Chemical Spills or Emergencies: Chemtrec - (800) 242-9300
For Human or Animal Medical Emergencies: Prosar - (800) 308-4856